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HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER	
PHAM, CHRYSTINE	

ART UNIT	PAPER NUMBER
2122	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,500	LONG ET AL.	
	Examiner	Art Unit	
	Chrystine Pham	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7 October 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to application 10/040500 filed on December 28th 2001. Claims 1-45 are presented for examination.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "said first class" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-14, 16-20, 22, 24-37, 39-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Ng et al. (US 6385618), hereinafter, *Ng et al.*.

Claim 1

Ng et al. teach a method for establishing a structure (e.g., see *116* FIG.1 & associated text) of a data item within a computer system (e.g., see *100* FIG.1 & associated text), where said data item is a first instance (e.g., see *orders, rows* col.1:60-col.2:11) of a class (e.g., see *Class Order 424* FIG.4B & associated text), the method comprising the steps of:

- creating a category object that is an instance (e.g., see *one customer, row* col.1:60-col.2:11) of a category class (e.g., see *Class Customer 420* FIG.4B & associated text), wherein said category class has one or more attributes (e.g., see *int Cust_id; str SSN* FIG.4B & associated text; see *columns, fields, customer's social security number* col.2:1-11); and
- associating said data item with said category object without associating said category object with all other instances of said class (e.g., see *Customer Customer_for_Order;* FIG.4B & associated text) thereby causing said data item to be associated with a structure that includes storage for values for said one or more attributes (e.g., see *118, 116* FIG.1 & associated text; see FIG.4A & associated text).

Claim 2

The rejection of base claim 1 is incorporated. *Ng et al.* further teach further comprising the computer-implemented steps of:

- receiving data that is designated for a particular attribute of said one or more attributes (e.g., see *1106, 1108* FIG.11A & associated text; see *1126, 1128* FIG.11B & associated text; see *1206* Fig.12 & associated text);
- determining whether said data conforms to rules associated with said particular attribute (e.g., see *attributes, type, null value* col.5:30-36); and

- if said data conforms to said rules storing said data as a value into said particular attribute (e.g., see *1108* FIG.11A & associated text; see *1128* FIG.11B & associated text; see *1206* FIG.12 & associated text).

Claim 3

The rejection of base claim 2 is incorporated. *Ng et al.* further teach wherein the steps of receiving, determining, and storing are performed by a method in said category class (e.g., see *classes, function members* col.2:12-25).

Claim 4

The rejection of base claim 2 is incorporated. *Ng et al.* further teach wherein said rules are data type rules associated with a data type of said particular attribute (e.g., see *attributes, type, null value* col.5:30-36).

Claim 5

The rejection of base claim 2 is incorporated. *Ng et al.* further teach wherein said rules are software rules (e.g., see *attributes, type, null value* col.5:30-36).

Claim 6

The rejection of base claim 1 is incorporated. *Ng et al.* further teach further comprising the step of:

storing within a database (e.g., see *relational database* col.1:60-col.2:25; see *118* FIG.1 & associated text), objects that define said data item (e.g., see *204* FIG.2 & associated text) and said category object (e.g., see *202* FIG.2 & associated text).

Claim 7

The rejection of base claim 1 is incorporated. *Ng et al.* further teach further comprising the computer-implemented step of:

- maintaining an object relational mapping system that indicates a correlation between said data item and data stored in a relational database (e.g., see *object-relational mapping tools* col.1:60-col.2:35; see FIGS.11A, 11B, 12 & associated text; see *object-relational mapping tool* col.4:14-55; see *114* FIG.1 & associated text).

Claim 8

The rejection of base claim 1 is incorporated. *Ng et al.* further teach wherein said category class is a user defined subclass of a parent category class (e.g., see *subclass* col.6:50-col.7:5).

Claim 9

The rejection of base claim 1 is incorporated. *Ng et al.* further teach for the step of associating said data item with said category object further includes the computer-implemented step of:

- establishing a pointer from said category object to said data item (e.g., see *403, 411* FIG.4A & associated text).

Claim 10

The rejection of base claim 1 is incorporated. *Ng et al.* further teach for the step of associating said data item with said category object further includes the computer-implemented step of:

- maintaining a table (e.g., see *204* FIG.2 & associated text; see *320* FIG.3 & associated text) that includes an entry that indicates that said data item is associated with said category (e.g., see *216* FIG.2 & associated text; see *326* FIG.3 & associated text).

Claim 11

The rejection of base claim 10 is incorporated. *Ng et al.* further teach for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said entry to include a key that identifies said category object (e.g., see *216* FIG.2 & associated text; see *326* FIG.3 & associated text) and a pointer to said category object (e.g., see *FOREIGN KEY* FIG.2 & associated text).

Claim 12

The rejection of base claim 10 is incorporated. *Ng et al.* further teach for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said table externally to said data item (e.g., see *204* FIG.2 & associated text; see *424* FIG.4B & associated text).

Claim 13

The rejection of base claim 10 is incorporated. *Ng et al.* further teach for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said table internally to said data item (e.g., see *401, 412* FIG.4A & associated text).

Claim 14

The rejection of base claim 1 is incorporated. *Ng et al.* further teach for the step of associating said data item with said category object further includes the computer-implemented step of:

- storing into said data item a hash table (e.g., see *320* FIG.3 & associated text; see *412* FIG.4A & associated text);
- locating an entry in said hash table for said category object based on data associated with said category object (e.g., see *326* FIG.3 & associated text; see *418* FIG.4A & associated text);
- locating a pointer to said category object in said entry (e.g., *FOREIGN KEY, 216, 206* FIG.2 & associated text); and
- following said pointer to locate said category object (e.g., see *202* FIG.2 & associated text; see *400* FIG.4A & associated text).

Claim 16

The rejection of base claim 1 is incorporated. *Ng et al.* further teach for the step of creating a category object further includes the computer-implemented step of:

- maintaining a table that includes an entry that contains a particular attribute of said one or more attributes (e.g., see *206* FIG.2 & associated text).

Claim 17

The rejection of base claim 16 is incorporated. *Ng et al.* further teach for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said entry to include a key that identifies said particular attribute (e.g., see *206* FIG.2 & associated text).

Claim 18

The rejection of base claim 16 for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said table externally to said category object (e.g., see *202* FIG.2 & associated text; see *400* FIG.4A & associated text).

Claim 19

The rejection of base claim 16 is incorporated. *Ng et al.* further teach for the step of maintaining a table further includes the computer-implemented step of:

- maintaining said table internally to said category object (e.g., see *400, 404* FIG.4A & associated text).

Claim 20

The rejection of base claim 1 is incorporated. *Ng et al.* further teach for the step of creating a category object further includes the computer-implemented steps of:

- storing into said category object a hash table (e.g., see *310* FIG.3 & associated text; see *404* FIG.4A & associated text); and
- locating an entry in said hash table for a particular attribute of said one or more attributes (e.g., see *312, 314* FIG.3 & associated text; see *406, 408* FIG.4A & associated text).

Claim 22

The rejection of base claim 1 is incorporated. *Ng et al.* further teach further comprising the computer-implemented step of:

- associating said category object with a second data item that is an instance of a second class, without associating said category object with all other instances of said second class wherein said first class is a different class from said second class (e.g., see *collection Orders_for_Customer;* FIG.4B & associated text).

Claim 24

Ng et al. teach a method for establishing a structure (e.g., see *116* FIG.1 & associated text) of a data item within a computer system (e.g., see *100* FIG.1 & associated text), where the data item is an instance (e.g., see *orders, rows* col.1:60-col.2:11) of a class (e.g., see *Class Order 424* FIG.4B & associated text), the method comprising the steps of:

- creating a first category object that is an instance (e.g., see *one customer, row* col.1:60-col.2:11) of a first category class (e.g., see *Class Customer 420* FIG.4B & associated text), wherein said first category class has one or more attributes;
- creating a second category object that is an instance (e.g., see *1104* FIG.11A & associated text) of a secondary category class (e.g., see *1102* FIG.11A & associated text), wherein said second category class also has one or more attributes (e.g., see *1106* FIG.11A & associated text; see *rows, columns* col.1:60-col.2:11); and
- associating said data item with said first category object (e.g., see *Customer Customer_for_Order;* FIG.4B & associated text) and with said second category object thereby

causing said data item to be associated with a structure that includes storage for values for said one or more attributes of said first category class and for said one or more attributes of said second category class (e.g., see *118, 116* FIG.1 & associated text; see FIG.4A & associated text; see *1112* FIG.11A & associated text).

Claims 25-37, 39-43

Claims recite limitations, which have been addressed in claims 2-14, 16-20, therefore, are rejected for the same reasons as cited in claims 2-14, 16-20.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 15, 21, 38, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ng et al.* in view of Bennett (US 6014733), hereinafter, *Bennett*.

Claim 15

The rejection of base claim 14 is incorporated. *Ng et al.* do not expressly disclose

- receiving data that is designated as a key for locating said entry in said hash table. However, this feature is deemed inherent in the teaching of *Ng et al.* since in order to update an entry in a hash table (see *1128* Fig.11B & associated text), data that is designated as a key must be received for locating an entry to be updated in said table.

Ng et al. do not expressly disclose further comprising the computer-implemented steps of determining whether said data conforms to rules associated with said key; and if said data conforms to said rules using said data as said key to locate said entry. However, *Bennett* discloses

- receiving data that is designated as a key (e.g., see *1046* FIG.10 & associated text; see *1102* FIG.11 & associated text) for locating said entry (e.g., see *1112* FIG.11 & associated text) in said hash table (e.g., see *1040* FIG.10 & associated text);
- determining whether said data conforms to rules associated with said key (e.g., see *1102* FIG.11 & associated text); and
- if said data conforms to said rules using said data as said key to locate said entry (e.g., see *1112* FIG.11 & associated text). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *Bennett* into that of *Ng et al.* for the inclusion of determining whether said data conforms to rules associated with said key and if said data conforms to said rules using said data as said key to locate said entry. And the motivation for doing so would have been to provide unique/correct result (i.e., data/value associated with received key) without collisions (e.g., *Bennett* col.9:14-22).

Claim 21

The rejection of base claim 20 is incorporated. Claim recites limitations, which have been addressed in claim 15, therefore, is rejected for the same reasons as cited in claim 15.

Claims 38, 44

Claims recite limitations, which have been addressed in claim 15, therefore, are rejected for the same reasons as cited in claim 15.

9. Claims 23, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ng et al.* in view of Curtis et al. (US 6336216), hereinafter, *Curtis et al.*.

Claim 23

The rejection of base claim 1 is incorporated. *Ng et al.* do not expressly disclose wherein said category class is a first file type and said category object is a first file of said first file type in a file system; wherein said class is a second file type and said data item is a second file of said second file type in a file system; and wherein the step of associating includes associating said second file with said first file without associating said first file with all other instances of said second file type thereby causing said second file to be associated with said structure in said file system. However, *Curtis et al.* disclose

- wherein said category class is a first file type and said category object is a first file of said first file type in a file system (e.g., see *FileInputStream fi* col.7:45-67);
- wherein said class is a second file type and said data item is a second file of said second file type in a file system (e.g., see *DataOutputStream fo* col.7:45-67); and
- wherein the step of associating includes associating said second file with said first file without associating said first file with all other instances of said second file type thereby causing said second file to be associated with said structure in said file system (e.g., see *FileAdder, SelfExtractor* col.7:40-col.8:10-35). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *Curtis et al.* into that of *Ng et al.* for the inclusion of first file type and second file type. And the motivation for doing so would have been to provide a computer controlled object-oriented programming system and method for storing and extracting plurality of data files via methods defined within class objects/instances (e.g., *Curtis et al.* col.2:20-37).

Claim 45

The rejection of base claim 24 is incorporated. Claim recites limitations, which have been addressed in claim 23, therefore, is rejected for the same reasons as cited in claim 23.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chrystine Pham whose telephone number is 571-272-3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 3, 2005

TUAN DAM
SUPERVISORY PATENT EXAMINER